synergy

SPRING 2002

SWDIV RESTORATION EMPLOYEE OF THE YEAR: JERRY T. DUNAWAY

The Chief of Naval Operations has named Jerry T. Dunaway the SWDIV Restoration Employee of the Year for his contributions to the Navy Installation Restoration Program as the Base Realignment and Closure (BRAC) Environmental Coordinator (BEC) for the former Mare Island Naval Shipyard.

According to the Chief of Naval Operations, Mr. Dunaway's contributions during the past year exceeded all expectations. Most notably, he played a significant role in the Early Transfer successes at Mare Island. Mr. Dunaway served as the primary technical expert during negotiations that involved the largest Environmental Services Cooperative Agreement (ESCA) between the Navy and the City of Vallejo, for $78 million. His dedication and persistence contributed to the Navy's success in completing and signing this agreement in April 2001. Mr. Dunaway also served in a similar capacity on the second Early Transfer at Mare Island, and he completed this $55 million ESCA in September 2001.

Mr. Dunaway consistently demonstrated his leadership and is valued as a key member of the Mare Island partnering team. His effective communication skills and collaborative approach have increased the trust among the Navy, the regulatory agencies, and the public. Mr. Dunaway's work has been exemplary this year.

EMERGENCY REMOVAL ACTION COMPLETED FOR HUNTERS POINT SHIPYARD DRY DOCK 4

In 2001, as an emergency removal action, the Navy team — led by Dave DeMars and Richard Mach — asked International Technology Corporation (IT) to use concrete to encapsulate contaminated sediment within the drainpipes below Dry Dock 4 at Hunters Point Shipyard in San Francisco, California. Carved into bedrock and at 1,000 feet long, 120 feet wide, with a "floor" 50 feet below the surface of San Francisco Bay, Dry Dock 4 posed daunting logistical and safety challenges for IT. To allow the dry dock operator to continue working, IT's work was completed immediately after the three ships were dismantled and just before more ships were moved into the dry dock for dismantling.

The concrete pumped from the ground surface to the drainpipes at the base of the dry dock, Hunters Point Shipyard, California.

IT was tasked to fill the drainpipes with concrete and leave the sumps intact. This action would allow the dry dock to remain in operation. Materials and heavy equipment had to be lowered to the base of the dry dock using the existing cranes. Before concrete could be pumped into the drainpipes, more than 200 cubic yards of class II waste was removed from the drainage system, transferred to bins at the base of the dry dock, and lifted out. More than 250 cubic yards of concrete was then pumped from the ground surface to the base of the dry dock and then through a series of core holes into the drainpipe. IT accomplished the work within 4 weeks of the Navy's direction to proceed. The work was completed on schedule and accident free.

Dry Dock 4 at Hunters Point Shipyard was constructed in 1942 and operated by the Navy until 1974. Since 1974 and until recently, the Navy leased the dry dock for ship repair and dismantling. Operations associated with ship repair and dismantling generated wastewater and sediment that contained oil, heavy metals, and other contaminants. Contaminated sediments were deposited in the dry dock drainage system. The drainage system, consisting of more than 2,000 feet of piping ranging from 24 to 48 inches in diameter, is located at the base of the dry dock. The drainpipes emptied into a series of sumps, where the water was pumped out of the dry dock. As a result of 30 years of ship repair and breaking, contaminant-laden sediment in the drainage system posed a potential threat to groundwater and San Francisco Bay. Although videotapes indicated that the drainpipes were in good condition, the Navy chose to further reduce the potential for contaminants to leach.

For more information, please contact Dave DeMars (SWDIV) at (619) 532-0912 or demarsdb@efdsw.navfac.navy.mil or Maynard Geisler (IT Corporation) at (925) 288-2178 or MGeisler@theitgroup.com.

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SUCCESS STORIES

NAVY ENVIRONMENTAL LEADERSHIP PROGRAM: A CATALYST FOR ENVIRONMENTAL ACTION

The Navy Environmental Leadership Program (NELP) has been promoting environmental solutions and managing environmental issues within the Navy for more than 10 years. This extremely successful program was established to test new technologies and explore various environmental strategies for on-shore activities, commands, or other naval projects. The program has exerted environmental influence by testing and promoting innovative technologies, marketing important environmental issues, and pioneering programs that conserve natural resources. Some of NELP's current projects include production of public newsletters, bulletins, and pollution prevention videos, a test project of a complex photovoltaic system that produces energy, and a pilot study for workplace environmental ergonomics.

NELP bulletins highlight a specific Navy environmental activity, technology, or demonstration. These bulletins are valuable for distributing the Navy's information, successes, and programs to the community, as well as other Navy and Marine Corps installations. Recent NELP bulletins have highlighted the in situ chemical oxidation and the thermal enhanced soil vapor extraction (SVE) system at Naval Air Station North Island (NASNI) Installation Restoration Site 5, Unit 2.

NELP is installing an information display on the photovoltaic system that is atop Building 678 at NASNI. The display will be a permanent placard outside Building 678 and will show photographs and quick facts about the system, including benefits, a power output chart, costs of the system, the payback period, and a brief technical explanation of how the system works.

NELP is also responsible for operation and maintenance (O&M) for the photovoltaic systems at Building 678 and at Building 3300 at Naval Station San Diego. These systems are located on the rooftops of the buildings, with panels made up of hundreds of silicon solar cells that convert sunlight into direct current (DC) electricity. This DC current passes through an inverter and changes to alternating current (AC). The AC electricity powers the charging stations for electric vehicles in the parking lot, a portion of the building, and the electric utility grid. These systems must be maintained and cleaned to allow optimal conversion of sunlight. O&M is currently carried out and documented monthly.

An environmental ergonomics pilot program is in effect starting with personnel workstations at Navy Region Southwest. This program entails assessments of ergonomics in offices and industrial settings (industrial assessments were conducted at installations in Ventura County), awareness training courses to supervisor staff, and evaluations of product and equipment. Modifying a workstation setup or workflow process to incorporate ergonomic design guidelines and principles can save millions of dollars for preventative and reactive employee injury incidents.

NELP has also recently developed a training video on pollution prevention in paint coating and removal techniques, developed by Ron Joseph & Associates, national experts on paint coatings. The video demonstrates how to maximize the efficiency of paint coating techniques, and a NELP bulletin will accompany the video. The video offers visual as well as audio information and cues for minimizing waste, optimizing paint coating and storing, and implementing efficient cleanup techniques.

Under NELP, Tetra Tech EM Inc. (Tetra Tech) has also initiated work at Submarine Base Point Loma to help the Navy identify potential sources of copper and zinc in the storm water run-off from the piers. Tetra Tech has conducted a site visit and is evaluating best management practices that may help reduce the levels of these contaminants as well as minimize point sources.

In the past decade, NELP has developed into one of the Navy's premier catalysts for environmental action. Many more environmental projects are in the future for this program, including opportunities for energy management and cleanup of pollution, and the continuing efforts to educate the community and military about important environmental issues and initiatives.

For more information, please call Arno Bernardo (NELP Program Manager) at (619) 524-6332 or Roger Argus (Tetra Tech EM Inc.) at (619) 525-7188.

CLEANUP OF PETROLEUM AT TREASURE ISLAND ACCELERATES

The Navy continues cleanup of petroleum-contaminated sites at Naval Station Treasure Island (NAVSTA TI) in preparation for transfers of the property to the City of San Francisco. The Fall 2001 issue of Synergy highlighted the petroleum cleanup at NAVSTA TI by International Technology Corporation (IT) under two contract task orders (CTOs) awarded by SWDIV. Since then, IT has excavated petroleum-contaminated soils and other sources of petroleum contamination at various sites on Treasure Island and neighboring Yerba Buena Island. Recent work included excavation by hand of contaminated soil at Building 66 on Yerba Buena Island. The contractor utilized excavation by hand because the close proximity of the building and surrounding infrastructure prohibited the use of heavy equipment at the site. Remedial activities at Building 66 identified the source of contamination on site, a previously undocumented leaking underground storage tank (UST) used to store heating oil, and mitigated future petroleum releases through closure and abandonment of the tank.

Causeway pipeline removal and closure activities, Naval Station Treasure Island

Other recent petroleum source removal activities included removal or in-place closure of more than 2,000 linear feet of fuel pipeline that had previously been used to supply aviation gasoline to Pan American Clippers (seaplanes). These pipelines were located within 10 feet of San Francisco Bay, and portions of the lines contained fuel product. Petroleum-contaminated soils were over-excavated as necessary along the alignments of the pipelines. This project proceeded with minimal disruption to traffic or facilities, although the pipelines extend-

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SUCCESS STORIES

STREAMLINED PETROLEUM CLEANUP AND TRANSFER STRATEGY AT ALAMEDA POINT

The Alameda Point BRAC team has designed and implemented a comprehensive strategy to evaluate petroleum contamination basewide that will streamline future remediation decisions. The strategy, devised in cooperation with the Regional Water Quality Control Board (RWQCB), was established with the goal that once criteria for evaluation of petroleum contaminants were in place, all property could be easily evaluated and decisions on whether the property required remediation could be made quickly. Historically, determining whether concentrations of fuels left in the soil or groundwater would present a human health or ecological risk has been difficult. Many studies of the issue (outside of Alameda Point) have yielded differing remediation goals to minimize human and ecological risk. The Navy decided to proactively design one set of criteria to be used at Alameda Point to evaluate all petroleum contamination in soil and groundwater for protection of human health and aquatic marine organisms. This set is intended to avoid indecision and delays in both cleanup and transfer of potential petroleum-contaminated property.

Petroleum cleanup activities at Alameda Point

The development of the strategy required a year of meetings and negotiations with RWQCB, the California Department of Toxic Substances Control (DTSC), and the U.S. Environmental Protection Agency (EPA), to achieve a strategy acceptable to all parties that could be applied basewide to petroleum-contaminated sites, sites commingled with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) chemicals, and property that was not considered contaminated but needed to be assessed for transfer. Since the strategy was designed to meet RWQCB's requirements for closure of low-risk fuel sites in the San Francisco Bay region, it is flexible enough to be applied to property anywhere within the area. The strategy provides a systematic approach to evaluate property for petroleum contamination based on proposed land reuse, the beneficial use designation of groundwater, and potentially complete exposure pathways for both humans and marine organisms.

As part of the strategy, preliminary remediation criteria (PRC) were developed for soil and groundwater and tables were developed that compare the PRCs to existing analytical data for the property evaluated. These PRC are grouped into reference tables for soil and for groundwater and are associated with a specific exposure pathway. PRC are listed for fuel-related constituents: total petroleum hydrocarbons (TPH), gasoline, jet fuel, diesel, motor oil, benzene, toluene, ethylbenzene, xylenes (BTEX), methyl tertiary butyl ether (MTBE), and lead, as well as for free product in soil and groundwater.

The step-by-step process used at Alameda Point to evaluate petroleum contamination at properties includes the following steps: (a) reviewing of the adequacy of existing site characterization data, (b) evaluating whether free product is likely to be present, (c) checking for the presence of CERCLA chemicals, (d) evaluating the conditions and elevation of the closest storm drains, (e) screening the analytical data against the PRC for soil and groundwater, which depend on the proposed reuse, whether the water is a potential source of drinking water, and distance to the shoreline, and (f) applying risk management decisions to establish the need for corrective action. By defining these steps and criteria up front, fewer decisions must be made on a property-specific basis, and the regulatory agencies have more confidence in the outcome, thus accelerating the process. After a property of interest is carried through the step-by-step process, a decision can be made whether it is considered clean, suitable for a low-risk closure, or requires remediation.

To date, all analytical data collected before 2001 for property at Alameda Point have been screened using the strategy. As new data are collected and added to the geographic information system (GIS) database for the site, they will be screened against the PRC in the strategy. This screening process has encompassed not only property that is known to be contaminated with petroleum hydrocarbons, but other property not previously evaluated. Properties impacted with petroleum hydrocarbons at Alameda Point have been designated as corrective action areas (CAAs). Currently, 16 areas are designated as CAAs; most include former underground storage tanks and former fuel lines. These 16 CAAs have been evaluated using the strategy, and 7 have been recommended for no further action (pending RWQCB concurrence) as a result. The remaining CAAs will require remediation.

The strategy is also applied at sites where petroleum contamination is commingled with CERCLA chemicals. The results of this screening will be used to evaluate whether the recommended remediation selected for CERCLA chemicals (as evaluated in a feasibility study and engineering evaluation and cost analysis) should also be considered for the petroleum contamination. In some cases, the remedy selected will hinge on whether the petroleum contamination is significant enough to influence the choice or even the feasibility of remediation for CERCLA chemicals.

In the future, the strategy will be used to guide the remedial design and goals as remediation is considered for petroleum-contaminated property — whether within a designated CAA or within the boundaries of a CERCLA site.

For more information, please call Greg Lorton (SWDIV) at (619) 532-0953 or e-mail at lortonga@efdsw.navfac.navy.mil or Beth Kelly (Tetra Tech EM Inc.) at (916) 853-4510 or e-mail at Beth.Kelly@ttemi.com.

SUCCESS STORIES

HUNTERS POINT SHIPYARD REACHES TWO BILLION POUNDS OF SOIL MOVED TO DATE

Remedial actions at Hunters Point Shipyard in San Francisco have reached a milestone informally established by Richard Mach, the former Base Realignment and Closure (BRAC) Environmental Coordinator (BEC) for the installation. Drawing on contractor records from 1996 to the present, the International Technology Corporation (IT) project team has tallied a total of two billion pounds of soil moved during removal and remedial actions at Hunters Point Shipyard. The total represents only soil transported off base for disposal and soil imported for backfill; recyclable materials (asphalt and concrete, for example) are totaled separately. Vials of clean soil that represent the two billionth pound were prepared by IT and presented by Mr. Mach to selected recipients from SWDIV, the Navy's contractor team for Hunters Point Shipyard (Tetra Tech EM Inc. and IT), and other participants involved in base cleanup.

TREASURE ISLAND

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ed alongside the parking area of the Treasure Island Public Marina and restaurant. Furthermore, a segment of the pipeline that extended beside the main entrance road to Treasure Island, heavily trafficked by sightseeing buses and pedestrians, was removed with minimal disturbance.

Pilot studies and interim operations of in situ petroleum remediation systems are under way throughout NAVSTA TI. IT successfully completed a pilot test of a soil vapor extraction (SVE) system at Sites 14/22, the former New Fuel Farm and Navy Exchange Service Station. In this textbook pilot study, the SVE system reached asymptotic recovery levels of the volatile components of total petroleum hydrocarbons (TPH) in only 4 months. In light of the success of the pilot study, the Navy decided to proceed with construction of the full-scale system to treat the entire corrective action area. To date, the SVE system at Sites 14/22 has removed at least 1,100 pounds of volatile compounds. Similar successes have been achieved in pilot studies at additional SVE and dual vacuum extraction (DVE) sites throughout NAVSTA TI. Full-scale construction of in situ treatment systems will proceed in Spring 2002.

For more information on cleanup of sites contaminated by petroleum, please call Ellen Casados (SWDIV) at (619) 532-0968 or Doug Nelson (IT) at (415) 277-6982.

CONTRACTING INITIATIVES

SWDIV ENVIRONMENTAL CONTRACTS

N68711

89-D-9296 CLEAN I – JACOBS ENG. GROUP (EXPIRED)
92-D-4670 CLEAN II – BECHTEL
92-D-4675 FP RAC – GEOFON (EXPIRED)
93-D-1459 RAC I – IT CORP. (FORMERLY OHM) (EXP)
95-D-7526 CLEAN III – BECHTEL
97-D-8702 FP RAC II/EJOC – GEOFON (EXPIRED)
97-D-8815 STORMWATER A-E IDIQ – LAW ENVIRONMENTAL
98-D-5537 ENV./HW STUDIES A-E IDIQ – SOTA (EXPIRED)
98-D-5713 RAC III – FOSTER WHEELER
99-D-6501 AIR QUALITY A-E IDIQ – RADIAN
00-D-0004 MULTI-MEDIA COMPLIANCE A-E IDIQ – CDM
00-D-0005 CERCLA/RCR A-E IDIQ – TETRA TECH
01-D-6001 SB RA-0/LTM EMAC – DUMMY CONTRACT
01-D-6002 SB RA-0/LTM EMAC – TERRA VAC
01-D-6003 SB RA-0/LTM EMAC – CAPE ENV. MGMT. INC.
01-D-6004 SB RA-0/LTM EMAC – PACIFIC TREATMENT, INC.
01-D-6005 SB RA-0/LTM EMAC – TN & ASSOCIATES, INC.
01-D-6006 UR EMAC – DUMMY CONTRACT
01-D-6007 UR EMAC – TBD
01-D-6008 UR EMAC – TBD
01-D-6009 UR EMAC – TBD
01-D-6010 UR EMAC – TBD
01-D-6011 UR EMAC – TBD
01-D-6012 UR EMAC – TBD
01-D-6014 EFA NW SB EMAC – DUMMY CONTRACT
02-D-8305 EFA NW SB EMAC – SHANNON & WILSON, INC.
02-D-8306 EFA NW SB EMAC – GEOENGINEERS, INC.
01-D-6013 SO. CAL 8(a) EMAC – DUMMY CONTRACT
01-D-6017 SO. CAL 8(a) EMAC – TBD
01-D-6018 SO. CAL 8(a) EMAC – TBD
01-D-6013 SO. CAL 8(a) EMAC – TBD
01-D-6019 NO. CAL 8(a) EMAC – DUMMY CONTRACT
01-D-6020 NO. CAL 8(a) EMAC – TBD
01-D-6021 NO. CAL 8(a) EMAC – TBD
01-D-6022 NO. CAL 8(a) EMAC – TBD
01-D-6023 NO. CAL 8(a) EMAC – TBD
01-D-6024 NO. CAL 8(a) EMAC – TBD
01-D-6111 FP RAC – ATG, INC. (EAST SF BAY AREA)
01-D-6112 FP RAC – ITSI (WEST SF BAY AREA)

N62474 (WEST)

88-D-5086 CLEAN I – TETRA TECH
93-D-2151 RAC I – IT GROUP
94-D-7609 CLEAN II – TETRA TECH
96-D-6085 FP RAC – CKY
96-D-6115 ENV. STUDIES A-E IDIQ – CH2MHILL
97-D-1512 FP RAC – ENV. CHEMICAL CORP.
98-D-2076 RAC II – IT GROUP

N63387 (PWC)

93-D-5988 PTES-EJOC
96-D-3600 PTES-EJOC

TECHNOLOGY INNOVATIONS

SOIL COVER CONSTRUCTED FOR IR SITE 1, NFD POINT MOLATE

SWDIV is conducting a non-time critical removal action at Installation Restoration (IR) Site 1, the Waste Disposal Area at Naval Fuel Depot (NFD) Point Molate in Richmond, California. The removal action involves construction of an engineered soil cover including drainage control, a seep collection trench, and soil gas and groundwater monitoring wells at the site.

NFD Point Molate covers 400 acres in the Potrero Hills along the northeastern shore of San Francisco Bay. The facility became a closing base under the Base Realignment and Closure (BRAC) IV Program on September 30, 1995. IR Site 1 is located near the center of NFD Point Molate. Steep slopes bound the site on three sides, and a low-lying marsh is located on the southern boundary of the site. The site was used for disposal of materials generated at the facility and historical data indicate that the majority of materials consisted of construction debris and some oily wastes. The planned future land use of IR Site 1 is non-irrigated recreational open space, as indicated in the reuse plan (City of Richmond and Brady Associates, Inc. 1997). The soil cover was designed to accommodate the planned future land use in a manner that will protect public health and safety and prevent human contact with waste.

A "no net loss" approach was used in constructing the cover around the low-lying marsh. As a result, plans for construction included a transplant area 1.5 times larger than an area of the marsh that would be affected by construction. This approach helped to ensure compliance with regulatory requirements for potential impacts to wetlands.

Drainage construction at IR Site 1, NFD Point Molate

Mobilization at the site was initiated in October 2001 with implementation of temporary erosion and sediment control measures. Aggressive implementation and maintenance of these erosion control measures have limited the impact of heavy rains at the site. Construction completed to date includes a seep collection trench, excavation and grading of a foundation layer including placement of import fill, disposal of debris generated from construction of the trench and foundation layers, placement of a soil barrier cover, and construction of a transplant area in accordance with the no net loss approach. A seep collection trench with passive soil gas vents was installed safely during heavy rains. The trench posed challenges including stability of the excavation sidewalls and the large number of seeps encountered in the excavation. Potentially contaminated seep water has been collected and stored before it is discharged, eliminating concerns over unauthorized releases.

The remaining work at the site includes the vegetative cover, construction of drainage controls, hydroseeding, and landscaping. The successful resolution of obstacles in the design and construction of the soil cover at NFD Point Molate is a result of an excellent working relationship between SWDIV, the contractor, Foster Wheeler Environmental Corporation (FWENC), design engineer Tetra Tech EM Inc., and the Regional Water Quality Control Board (RWQCB).

For more information, please call John Kowalczyk (SWDIV) at (619) 532-0972 or e-mail at KowalczykJC@efdsw.navfac.navy.mil

MCAS TUSTIN GROUNDWATER TREATMENT UNDER WAY

Marine Corps Air Station (MCAS) Tustin in California geared up during the latter half of 2001 for a Time-Critical Removal Action (TCRA) at Site 13 South to address contamination in groundwater by 1,2,3-trichloropropane (1,2,3-TCP). This action is coordinated with a second corrective action at a former gasoline station (underground storage tank [UST] Site 222) to address contamination in groundwater by methyl tert-butyl ether (MTBE). The MTBE site is managed through the Petroleum Corrective Action Program (PCAP). The activities at these two sites are being closely coordinated because the two plumes overlap.

A public meeting was held on July 12, 2001, to provide the community with an overview of the actions to be taken at both sites. Posterboard presentations were available for review before the meeting, and Mr. Keith Forman, the Base Realignment and Closure (BRAC) Environmental Coordinator (BEC), provided a slide show.

The TCRA for Site 13 South involves seven extraction wells to prevent further migration of contaminants and to reduce concentrations in shallow groundwater. The extracted groundwater is treated using a granular activated carbon (GAC) absorption system to remove chlorinated compounds.

The PCAP for MTBE is split into two phases. Phase 1, which began in July 2001, involves two extraction wells near the source area (the former gasoline station). Phase 2 involves an additional four extraction wells near the center of the plume of MTBE. Extracted groundwater associated with the PCAP for MTBE is treated with a HIPOxTM treatment system that uses hydrogen peroxide and ozone to break down the MTBE through chemical oxidation. A Bio-GAC unit treats acetone produced as a by-product of the oxidation process.

Both the TCRA for Site 13 South and the PCAP for MTBE treat contaminants in groundwater to levels below those established by the regulatory agencies. The effluent from both has passed a toxicity test that is required before groundwater can be discharged to the storm drain system. Both actions began initial start-up in January 2002 and have been running continuously since February 2002.

TECHNOLOGY INNOVATIONS

PROJECT WILL REMOVE ORDNANCE, STUDY SUBSURFACE AT ALAMEDA POINT IR SITES 1 AND 2

A project to characterize and remove ordnance and explosive waste (OEW) and a geotechnical and seismic investigation are under way at Installation Restoration (IR) Sites 1 and 2 at the former Naval Air Station (NAS) Alameda Point in Alameda, California.

IR Sites 1 and 2 were used mainly for waste disposal during the 1940s through the mid-1950s. IR Site 2 contains a waste disposal area the installation used from the 1950s to the 1980s. Land is scheduled to be transferred to the City of Alameda and the U.S. Fish and Wildlife Service (USFWS). Site reuse is anticipated to include construction of a golf course at Site 1, as proposed by the City of Alameda. Site 2 will become part of the Alameda National Wildlife Refuge, as USFWS has proposed.

Before the sites can be transferred and reused, the Navy concluded that additional characterization, and possibly removal, of OEW generated primarily when aircraft armaments were test fired, was required for the two sites. The general contractor, Foster Wheeler Environmental, is currently investigating the sites to evaluate the scope of munitions that remain within the boundaries of IR Sites 1 and 2. (The results of the OEW characterization at Sites 1 and 2 will be presented as an attachment to a Remedial Investigation report for Site 1 and as a separate document for Site 2.) Other activities in progress at the two sites include a topographic and geotechical survey, both on shore and off shore, to identify characteristics of the sites that are important in selecting remediation technologies for Sites 1 and 2.

A sweep of 100 percent of the surface area associated with IR Site 1 has been completed, resulting in the removal of OEW concentrated at a former pistol range identified within Site 1. The OEW surface sweep was carried out within a 200- by 200-foot grid established over the entire IR Site 1. This sweep recovered 1,080 Target Practice (TP) and inert 20-millimeter (mm) rounds, including one 40-mm casing. These items have been demilitarized by cutting them to smaller pieces, and they will be disposed of off site.

Field activities at Sites 1 and 2 include removal of vegetation, a surface sweep, and identification and removal of munitions and ordnance that are encountered. In addition to the surface sweep at IR Site 2, a 2.5-acre former OEW disposal area is also being excavated to remove OEW in the subsurface.

Unexploded ordnance (UXO) technicians worked closely with geologists and drillers to ensure the safety of site personnel during drilling. Procedures were implemented to check the borehole locations for detectable metal that may have indicated the presence of OEW below ground surface. These procedures were repeated at 4-foot depth intervals for each borehole drilled as part of OEW avoidance procedures. Specialty personnel are necessary for characterization and removal of OEW, and include a team with a combined 100 years of education and experience in intrusive investigations and ordnance disposal.

EVALUATION OF SEISMIC HAZARDS

Seismic hazard also will be evaluated for each IR site. These evaluations will be formally documented in the Feasibility Study reports to be prepared for each site.

Three major tasks were involved in the geotechnical and seismic evaluations at IR Sites 1 and 2. These tasks included the collection of soil samples/field data by drilling soil borings using a hollow stem auger (HSA) drill rig and a Cone Penetrometer; testing and analysis of samples; and evaluation of performance criteria based on test results.

The geotechnical evaluations assessed the hydraulic performance of existing soil covers over both the landfills at IR Sites 1 and 2, as well as potential settlement of the existing cover soil and new fill material placed over the landfills. Integration of future land use scenarios over the landfills will be evaluated with existing requirements for landfill caps to control site drainage and infiltration.

Seismic hazards that will be evaluated will include slope instability and liquefaction and will involve deformation analysis to estimate seismically induced deformations in slopes.

The runway tarmac southeast of IR Site 1 and east of IR Site 2 provides an important nesting habitat for the California least tern. The work at Sites 1 and 2 was fast tracked for scheduled completion by April 1 to eliminate any impact to the nesting colony during the peak of the avian breeding season (April 1 to September 30)

For more information, please call Rick Weissenborn (SWDIV) at (619) 532-0952 or e-mail at WeissenbornRC@efdsw.navfac.navy.mil.

SWDIV TO PRESENT QUALITY ASSURANCE SUCCESSES AT NATIONAL QUALITY CONFERENCE

Narciso A. Ancog, SWDIV Quality Assurance (QA) Officer, and Tetra Tech EM Inc. will present the results of a joint effort of QA personnel to improve the quality of environmental data collected under the SWDIV Installation Restoration Program at the 21st Annual National Conference on Managing Environmental Quality Systems in April 2002. The U.S. Environmental Protection Agency (EPA) sponsors the annual conference on managing quality systems for environmental programs. The conference is a national forum for disseminating and exchanging information on managing the quality of environmental data, discussion and action on issues of national concern, training, and technical presentations.

The SWDIV presentation will summarize recent quality improvements efforts, which have focused on Sampling and Analysis Plans. Some of the specific topics will include:

- Integration of Field Sampling and Quality Assurance Project Plans – The Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPP) have been integrated into one consolidated Sampling and Analysis Plan (SAP) to

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POLICY INITIATIVES

UPDATES ON THIRD-PARTY SITES AND AFFIRMATIVE CERCLA CLAIMS

THIRD-PARTY SITE CLAIMS MANAGEMENT

The Navy's amended policy on third-party claims brought against the Navy under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or the Resource Conservation and Recovery Act (RCRA) requires that effective immediately:

All current third-party remediation efforts are to be reviewed by environmental and legal personnel at Naval Facilities Engineering Command (NAVFAC) Engineering Field Division/Engineering Field Activity (EFD/EFA). The Navy Litigation Office (LITOFF) will have principal responsibility within the Navy for all matters that pertain to the Navy's alleged liability at a site. NAVFAC, through EFD/EFA, will provide support as needed.

In resolving Navy liability at third-party sites, Environmental Restoration Navy (ER, N) funding is not available to pay for the Navy share of a court judgment or compromise settlement. ER, N funding may be used for other expenses in connection with resolving the Navy's liability, such as travel for Navy personnel to attend meetings of potentially responsible parties and expenses for pre-litigation case evaluation (for example, consulting experts, reproduction costs, and administrative expenses). ER, N is not to fund "remediation expenses," including sampling, testing, removals (emergency and otherwise), remedial investigations, preliminary assessment, site investigations, feasibility studies, remedial design, remedial action, long-term monitoring, and long-term operations. Remediation expenses must be obtained through compromise settlements executed by the Department of Justice in accordance with its compromise settlement authority.

For more information, please call Lucreatria Holloway (SWDIV) at (619) 532-2810.

AFFIRMATIVE CLAIMS MANAGEMENT

Navy property may be contaminated by entities other than federal agencies under two scenarios. First, contamination may be caused by an entity that is allowed to operate on Navy property, and second, Navy property may be contaminated from outside sources. In both scenarios, the Navy is responsible typically not only for the costs to remediate the contamination, but also for damage to natural resources for which the Navy is a trustee under CERCLA or the Oil Pollution Act (OPA).

It is in the Navy's interest to pursue affirmative claims through CERCLA or contract compromise settlements, in lieu of litigation. When the possibility of pursuing affirmative claims arises, Navy activities should inform LITOFF as soon as possible. LITOFF will have the lead on negotiating and pursuing these affirmative claims. NAVFAC EFD/EFA and other major claimants will provide support as needed.

LITOFF will have principal responsibility within the Navy for working with the Department of Justice to resolve affirmative claims through CERCLA compromise settlements or affirmative litigation. If a CERCLA compromise settlement is negotiated with the third party, or if litigation is determined to be an option, Navy must be represented by counsel from the Environmental Enforcement Section, Environmental and Natural Resources Division, Department of Justice.

The Associate General Counsel (Litigation) must approve and sign the request and briefing memorandum to Department of Justice. NAVFAC and other major claimants will provide support as needed.

POLICY ON SEDIMENT SITE INVESTIGATION AND RESPONSE ACTION

The Chief of Naval Operations has issued a policy on sediment site investigation and response action in response to concerns pertaining to investigation and cleanup of contaminated sediments. The policy specifies that the source must be identified and controlled before cleanup, the cleanup must be risk-based and have site-specific cleanup goals, and the monitoring criteria for any monitoring plan must be established before the first sample is collected. Careful thought must go into the planning and design of investigations and the response actions for sediments. The policy states that source identification, conceptual site models, problem formulation and data quality objectives must be utilized in the characterization of contaminated sites. Identification of all potential sources, both Navy and non-Navy, is essential to the decision-making process.

For more information, please call Michael Pound (SWDIV) at (619) 532-2546.

QUALITY ASSURANCE
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avoid redundancy and eliminate inconsistencies. The integrated document offers several advantages over two separate plans. It is shorter, takes less effort to prepare, provides a single comprehensive guide to all project personnel, and avoids problems associated with cross-referencing between the separate FSP and QAPP.

- Documenting Changes to SAPs using Amendments and Field Change Orders - Protocols for the development and use of amendments and field change orders have been established. These protocols allow changes to SAPs to be written, reviewed and implemented efficiently while maintaining full documentation of sampling and analysis efforts.
- Integrating Multiple Contractors - With numerous contractors working concurrently on multiple Navy installations within the SWDIV arena, an effective means of communicating and sharing ideas and experiences is essential to ensure consistency among contractors and full implementation of the SWDIV Quality Assurance Plan. As a result, SWDIV has established a Data Quality Council (DQC) that is made up of the QA officers from all the major contractors working under the SWDIV Installation Restoration Program. The DQC meets quarterly with the SWDIV QA Officer to discuss quality issues, review SWDIV's requirements, discuss technical topics, and share ideas for quality improvement.

The 21st Annual National Conference on Managing Environmental Quality Systems is open to all interested members of the environmental community, including representatives from EPA, other federal agencies, state, local, and Tribal governments, academia, and the private sector. The conference will be held in Phoenix, Arizona, on 8 to 11 April 2002. For more information, including a tentative agenda, training courses, and registration information, visit the web site at http://www.atlintl.com/epa-conference-2002.

For more information, please contact Narciso A. Ancog (SWDIV) at (619) 532-2540 or e-mail at AncogNA@efdsw.navfac.navy.mil, or Dr. Greg Swanson (Tetra Tech EM Inc.) at (619) 525-7188 or e-mail at Greg.Swanson@ttemi.com.

ANNOUNCEMENTS

EDUCATION OPPORTUNITIES

Take advantage of these free training opportunities offered by the Civil Engineer Corps Officers School (CECOS). Information on the CECOS course schedule and enrollment are available on the web at https://www.cecos.navy.mil/. To enroll in any class, submit a CECOS Fax Quota Request Form to the CECOS Registrar via fax at (805) 982-2918. You can obtain the Quota Request Form, as well as confirmation of receipt, by contacting the Registrar at (805) 982-8295 or by fax at (805) 982-2918. You should register at least 3 weeks in advance to allow for adequate planning and to prevent cancellation of the course.

COMPLIANCE

Hazardous Waste Annual Refresher

18 April 2002 San Diego, California
2 May 2002 El Centro, California
26 July 2002 San Diego, California
12 August 2002 Southwest Region
12 September 2002 Southwest Region
13 September 2002 Port Hueneme, California

Hazardous Waste Facility Operators

6-10 May 2002 San Diego, California

Hazardous Waste Generators/Handlers

15-17 April 2002 San Diego, California
29 April - 1 May 2002 El Centro, California
13-15 May 2002 San Diego, California
22-25 July 2002 San Diego, California
9-11 September 2002 San Diego, California

ENVIRONMENTAL MANAGEMENT

Advanced Environmental Law

5-8 August 2002 Port Hueneme, California

Advanced Environmental Management

4-14 June 2002 Port Hueneme, California

Air Installations Compatible Use Zones Seminar

21-23 May 2002 to be determined

Basic Environmental Law

17-19 September 2002 San Diego, California

Conducting Environmental Management System Reviews

9-11 April 2002 San Diego, California

Environmental Negotiation Workshop

7-9 May 2002 San Diego, California
10-12 September 2002 Norfolk, Virginia

Health and Environmental Risk Communication

2-4 April 2002 Washington D.C.
21-23 May 2002 Silverdale, Washington
6-8 August 2002 San Diego, California

National Environmental Policy Act (NEPA) Application

23-25 January 2002 San Diego, California

National Environmental Policy Act (NEPA) Navy Executive Overview

22 January 2002 San Diego, California

RESTORATION

Ecological Risk Assessment

10-12 September 2002 San Diego, California

Environmental Background Analysis

29-30 January 2002 San Diego, California

Environmental Geographic Information Systems

17-18 June 2002 San Diego, California

Geostatistics

19-20 June 2002 San Diego, California

HAZWOPER for Uncontrolled Hazardous Waste Site Workers

29 July-2 August 2002 San Diego, California

HAZWOPER for Uncontrolled Hazardous Waste Site Workers Refresher

17 June 2002 Port Hueneme, California
5 August 2002 San Diego, California
6 August 2002 San Diego, California

Human Health Risk Assessment

23-25 April 2002 San Diego, California

GEOTRACKER

Assembly Bill 2886 (Water Code Sections 13195-13198) requires responsible parties to electronically submit compliance data, such as soil or water chemistry analysis, location, and elevation data to the State Water Resources Control Board (SWRCB) Geographical Environmental Information Management System, GeoTracker. This law represents a new trend in regulatory compliance processes - the electronic submittal of data that formerly have been reported in paper format. As of September 1, 2001 the laboratory analytical data from all LUST sites must be electronically reported to GeoTracker. As of January 1, 2002, location data and well data related to elevation (i.e. depth to water) also needed to be electronically reported to the GeoTracker database.

The SWRCB has developed standardized electronic formats that must be used for these submittals. SWDIV contractors and associated laboratories will prepare the appropriate electronic submittals. Electronic reporting will provide decision-makers with more accurate, up-to-date, accessible, and complete statewide information concerning both operating UST sites and sites where there has been a release of fuel and/or solvent chemicals from any component of the UST system.

The electronic data will be available to the public via the GeoTracker database on the web. Additional information about the requirements, formats, and different access levels is available from http://www.swrcb.ca.gov/cwphome/ust/docs/ab2886.

UPCOMING EVENTS

2002 ITRC INTERNET TRAINING SCHEDULE

The Interstate Technology and Regulatory Council (ITRC), in conjunction with the U.S. Environmental Protection Agency (EPA) Technology Innovation Office, offers a wide variety of Internet training events on innovative environmental methods and technologies. The ITRC Internet training schedule for 2002 is available at www.itrcweb.org. Course registration will open 4 to 6 weeks in advance of the date of the training. The ITRC Technical and Regulatory Guidance Documents are available from the website. ITRC also offers classroom training courses: courses scheduled during 2002 are listed on the website, below the Internet training courses. For additional information, contact Mary Yelken at myelken@westgov.org or (402) 325-9615.

CONTAMINATED PROPERTY TRANSACTIONS – CONVERTING RUINS TO RUBIES
1-3 May 2002, Washington D.C.

The conference will lay out a framework for structuring, negotiating, and closing contaminated property transactions affecting private sector and federal facilities and will demonstrate how risk-based decision-making, land use controls, and risk financing can be effectively employed at mandatory and voluntary site cleanups and redevelopments of environmentally impaired assets. In addition, the new brownfields legislation, H.R. 2869, signed onto law January 11, 2002, will be discussed and its effects determined relative to site owners, prospective buyers, and other stakeholders who are facilitating the public and private partnerships involving contaminated property transactions and brownfield redevelopments that encompass national priorities list (NPL), Non-NPL sites, and former military installations. Representatives from the military and national developers will address Base Realignment and Closure (BRAC) early transfers and cleanups as well as the cleanup of active military facilities and Formerly Used Defense Sites (FUDS). For more information and on-line registration, please visit http://www.rtmcomm.com/rubies2002.htm.

REMEDIATION OF CHLORINATED AND RECALCITRANT COMPOUNDS CONFERENCE
20 to 23 May 2002, Monterey, California

The Third International Conference on Remediation of Chlorinated and Recalcitrant Compounds is sponsored and organized by Battelle National Laboratory. The focus of the 2002 conference is the innovative use of existing or new technologies and approaches to address the challenge of characterizing, remediating, monitoring, and closing sites contaminated with chlorinated solvents and other recalcitrant compounds. For more information and on-line registration, please call (614) 424-6424 or visit http://www.battelle.org/environment/er/conferences/chlorcon/default.stm

GLOBAL DEMILITARIZATION SYMPOSIUM & EXHIBITION
20 to 24 May 2002, Lexington, Kentucky

This annual event, sponsored by the Joint Ordnance Commanders Group (JOCG) and the National Defense Industrial Association supports the Department of Defense efforts to reduce the stockpile of excess and obsolete strategic, tactical, and conventional munitions. Topics of interest will include ongoing disposal, recycling, and reuse programs, research and development efforts, transitioning technologies, and the latest policy issues. For more information, please visit http://register.ndia.org/interview/register.ndia?~Brochure~2580.

REMEDIATION INNOVATIVE TECHNOLOGY SEMINAR (RITS)
6 June, San Diego, California

The Remediation Innovative Technology Seminar (RITS) provides training on new and innovative technologies, methodologies, and guidance under the Navy's Environmental Restoration Program. RITS is sponsored by the Naval Facilities Engineering Command (NAVFAC) in coordination with its geographical Engineering Field Divisions (EFDs) and Activities (EFAs) and the Naval Facilities Engineering Service Center (NFESC). RITS training serves as one of many ways the Navy promotes innovative technologies to enable site restoration to take place faster, consume less energy, and provide better results at lower cost. The seminar is developed primarily for the Navy's Environmental Restoration and Base Realignment and Closure (BRAC) environmental professionals, but it is also available to other U.S. Department of Defense (DoD) personnel, the Navy's environmental cleanup contractors, and environmental regulators. For registration and seminar information by fax: (805) 982-3694, e-mail: rits@nfesc.navy.mil, voice: (805) 982-5575, DSN 551-5575, or visit the web site at http://enviro.nfesc.navy.mil/erb/support/rits/main.htm

MTBE IN GROUNDWATER: ASSESSMENT, REMEDIATION, REMEDIATION TECHNOLOGIES, AND PUBLIC POLICY
6 to7 June 2002, Orange, California

The conference will include presentations by some of the leading experts on successful remediation of groundwater contaminated by methyl tertiary butyl ether (MTBE). Speakers also will address public policy issues related to MTBE. Groundwater scientists, engineers, regulators, and professionals in related fields are invited to attend the conference. For registration and conference information, contact Kathy Butcher at (800) 551-7379, fax (614) 898-7786, email ngwa@ngwa.org, or visit the web site at http://www.ngwa.org.

CONTAMINATED SOILS, SEDIMENTS, AND WATER
21 to 24 October 2002, Amherst, Massachusetts

The theme of this conference, Expediting and Economizing Cleanups, will be supported by a strong and diverse technical program among a variety of educational opportunities. The conference promises to be an exciting opportunity for everyone concerned with the challenge of developing creative, cost-effective assessments and solutions that can withstand the demands of regulatory requirements. To learn more, visit the web site at http://www.umasssoils.com/ or call (413) 545-1239.

SWDIV NEWSLETTERS ARE AVAILABLE AT:
http://www.efdsw.navfac.navy.mil/Environmental/EnvHome.htm

EDITORIAL INFORMATION

The CFS Group, a department of Tetra Tech EM Inc., edits Synergy in cooperation with SWDIV. The editors invite articles on environmental solutions for sustainability, including technology innovations, lessons learned, success stories, community relations, and conferences and training events.

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